Facts, Fakes, and Climate Science

Recommendations for Improving Information Integrity about Climate Issues

Misleading information about the causes and consequences of climate change obstructs effective policy responses. This *Summary for Policymakers* summarizes findings from the larger *Synthesis Report* "Information Integrity about Climate Science: A Systematic Review" ([SR2025.1](SR2025.1)).

The central conclusion of the *Synthesis Report* is that powerful actors—including corporations, governments, and political parties—intentionally spread inaccurate or misleading narratives about anthropogenic climate change. These narratives circulate across digital, broadcast, and interpersonal communication channels. The result is a decline in public trust, diminished policy coordination, and a feedback loop between scientific denialism and political inaction.

There is a severe gap in research on climate information integrity in the Global South, where impacts are likely to be significant but poorly documented.

Key takeaways from the synthesis include:

1. coordinated misinformation campaigns actively shape climate narratives;
2. scientific consensus is frequently misrepresented in media;
3. regulatory enforcement and access to data remain uneven globally;
4. information integrity research is heavily concentrated in the Global North.

The report concludes with an assessment of policy recommendations that have been made over time, identifying for policymakers the four areas where impact has been consistently positive:

- **legislation** to ensure standardized carbon reporting and labelling,
- **litigation** to ensure enforcement of the standards,
- **coalition building** across stakeholder groups,
- **education** of policymakers and the public.

This study delivers the first global, systematic assessment of information integrity about climate science. It draws on research by hundreds of scholars and thousands of peer-reviewed studies published over the past decade, with a methodologically rigorous review of 300 papers on policy solutions.

This consolidated evidence base affirms a scientific consensus and specifies the urgent measures policymakers must enact to shield humankind—and the planet we depend on—from an accelerating climate threat.

INTRODUCTION

The global conversation on climate change is no longer just about carbon—it is about credibility. Efforts to delay action on climate are increasingly waged through the information environment: through distorted messages, emotionally charged appeals, and highly targeted persuasion. These efforts compromise the integrity of climate communication, weaken institutional authority, and discourage public and political engagement.

This Summary for Policymakers distills the findings of a comprehensive scientific synthesis produced by the International Panel on the Information Environment [1]. The Technical Paper reviews 300 peer-reviewed studies and global syntheses from the last decade. It charts the transformation of climate messaging tactics, identifies emerging threat vectors, and highlights structural gaps in the current evidence base.

What emerges is a picture of strategic disruption—carefully designed to appear moderate, reasonable, and data-driven, while quietly obstructing action. The damage is felt not only in public opinion but in policymaking processes themselves. Fully understanding the strategic disruption requires:

1. a **synthesis of knowledge** on the origins and consequences of the crisis of information integrity regarding climate science;
2. documentation of **gaps in research** that limit understanding of information and communication about climate change; and
3. identification of ways and means of **mitigating the crisis of information integrity** about climate science.

To accomplish these objectives, the review addressed six questions:

- **Who**. Who originates the information that disregards, circumvents, and undermines climate science?
- **Says what**. What categories of information and what communicative practices threaten information integrity?
- **In which channel**. Which media disseminate misleading information?
- **To whom**. Who is affected by intentional and incidental undermining of climate science?
- **With what effects**. What is the impact of misleading information on human understanding, opinions, and behaviors relating to climate change?
- **With what potential solutions**. What solutions have been identified by research to counter the threat to information integrity about climate science?

SUMMARY OF THE STATE OF KNOWLEDGE

Who. The primary agents of climate misinformation are powerful economic and political interests: fossil fuel companies, political parties, governments, and nation-states. These powers have joined forces in alliances that often operate without public oversight or transparency. Scientific "hired hands" aid and abet the production and circulation of misinformation. Legacy media and social media alike have failed the public in the face of the existential risk of climate change.

Says what. Strategies to deny the realities of climate change and the evidence of climate science have shifted toward downplaying the seriousness of climate change. The effect is to sideline necessary mitigation and adaptation approaches and bring into question the relevance and effectiveness of available solutions. Simultaneously, climate nationalism has been on the rise, and this hinders collaborative global solutions to the climate crisis.

In which channel. Both classic mass media and social media are vehicles of false and misleading information about climate change. A third stream of communication, for example, includes corporate sustainability reports and closed exchanges between business interests and policymakers. These channels enable elites to serve short-term economic and political gains at the expense of the long-term interests of the public.

To whom. Everybody is a target of misleading information about climate change. But certain individuals are strategically singled out as targets of influence: Elected officials, civil servants, and other decision-makers are central links in the chains of communication that shape policies and decisions.

With what effects. These communications influence public opinion and policymaking over time, in multiple steps, across different social and cultural contexts. Conspiracy theories and other misinformation undermine public trust in climate science and in the institutions translating the scientific evidence into timely policies.

With what potential solutions. Research has identified four avenues to repairing and maintaining information integrity about climate science:

- First, **legislation and regulation** can mandate standardized carbon reporting by private corporations and public institutions. Combined with transparent procedures of content labelling and providing corrective information misinformation on social media can be mitigated ([SFP2023.1](#)).
- Second, **litigation** enables state as well as non-state actors to bring claims against enterprises engaging in greenwashing and other misleading communication.
- Third, **counter-publics**—alliances of citizens, local communities, and civil-society organizations—can respond to and counterbalance the alliances

built by the corporations, policy lobbies, and think tanks who seek to obstruct and delay climate action.
- Fourth, **science and media literacy** represent a long-term strategy that empowers citizens and publics to respond to the crisis of information integrity about climate science.

RESULT 1: STRATEGIC SKEPTICISM IS REPLACING DENIALISM

KEY FINDING

The strategies of climate misinformation are shifting from blank denial to vaguely skeptical positions.

Denial of the reality of climate change and the findings of climate science has been replaced by *strategic skepticism*—sowing doubt about the nature of the problem and the feasibility and cost-effectiveness of any available solutions. Skepticism muddies the waters of the information environment, changing the topic of climate change and confusing the scientific issues of cause, effect, and remedies.

Denialism questions climate change as a fact, climate science as a reliable source of evidence, and climate action as an important political issue.

Skepticism instead recognizes climate change as a fact but questions its human causes. It undermines scientific evidence of the human causes and social consequences of climate change and promotes doubt about the feasibility and cost effectiveness of climate policies.

The *stakeholders* responsible for climate misinformation remain the same:

- fossil fuel and other industries, who obscure their responsibility for climate change, obstruct climate action, and greenwash their carbon footprints;
- rightwing populist movements, who promote skeptical policy platforms and climate nationalism; and
- alliances of political and business actors, who fuel skepticism in policy development and public debate and are supported by conservative think tanks and philanthropic organizations.

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RESULT 2: POLICYMAKERS ARE KEY TARGETS OF MISINFORMATION

KEY FINDING

Policymakers are pivotal in the chains translating misinformation into obstruction and delay of climate action.

Climate misinformation is most associated with social media and mass media shaping the attitudes and behaviors of the public. But *policymakers* occupy a pivotal position in the chains of communication that translate climate science into decisions and action—or inaction. Elected politicians, civil servants, and other public officials are targets of climate misinformation.

Democracies thrive on citizens communicating among themselves and with their elected representatives. But much of the information about climate change that is currently funneled by powerful interests into institutions of public governance is incorrect and unreliable. The sources of this misinformation—and the channels of its dissemination—typically fall outside of public scrutiny.

Key *sources* of misinformation targeting policymakers include conservative think tanks, industrial lobbies, and scientific hired hands.

The *channels* targeting misinformation at policymakers include corporate sustainability reports, public relations campaigns that greenwash companies, partisan policy briefs, and interpersonal networks of business and political actors.

RESULT 3: MISINFORMATION ERODES PUBLIC TRUST

KEY FINDING

Misinformation leads people to lose faith in climate science and in a hopeful future for themselves.

The primary effect of misinformation on the public is that *people lose faith in climate science*. Conspiracy theories deepen this distrust and fuel feelings of disillusionment and powerlessness. As a result, citizens become skeptical not only of the institutions working to create a sustainable future, but also of their own ability to meaningfully contribute to change.

Like climate change, misinformation has long-term effects. Rather than shaping attitudes and behaviors in the short-term, misinformation drives *reduced engagement* with climate policy issues and *diminished interest* in mitigating initiatives.

Mistrust is fueled through *a vicious cycle of misinformation* traveling back and forth between public opinion and policymaking. For example, economic and political elites promote climate skepticism, which feeds public opposition to climate policies. This in turn, feeds back into the policy arena and negatively impacts policy development and decision-making.

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POLICY RECOMMENDATIONS

Climate science has been documenting the accelerating climate crisis and the available solutions for decades [2]. The United Nations has recognized access to information about climate change as a human right [3], and outlined a set of global principles for maintaining the integrity of publicly available information about climate change and other critical domains [4].

Unfortunately, a crisis of information integrity is exacerbating the climate crisis. Fortunately, the science of information integrity about climate issues is beginning to reveal the positive, constructive policy levers for raising public understanding of climate. Based on the analysis of 300 peer reviewed publications, produced over a decade of research, four policy options are recommended.

1. **Legislation** is required to ensure that accurate, consistent, dependable, and transparent information about climate change is available to the public and policymakers. Legislation should mandate standardized reporting by private corporations and public institutions about their carbon footprints. Digital platforms and other communications media should implement transparent procedures of content labeling and providing corrective information.
2. **Litigation** by state and non-state actors against any enterprises engaged in greenwashing and other misleading practices is needed to enforce the standards and procedures that ensure the availability of accurate and reliable information.
3. **Coalitions of the willing**—across national borders and private, public, and civil society—should be built to counterbalance the alliances of powerful economic and political interests that are disseminating misinformation and obstructing urgent climate action.
4. **Education** must broaden and deepen the scientific and media literacy of citizens as well as of policymakers, who are special targets of misinformation. It is those policymakers who author legislation and provide civic leadership in response to the climate crisis.

For more information about the methods of systematic reviews, and more detailed analysis of findings, please see the main Synthesis Report, "Information Integrity about Climate Science: A Systematic Review" [1].

CONCLUSION

The climate crisis of the 21st century constitutes an existential risk to the future of humanity and biodiversity [5]. Reaffirming the United Nations Framework Convention on Climate Change, the 2015 Paris Agreement [6], subscribed to by 195 parties, specified the ways, and means to reduce carbon emissions by 2030 and to reach net-zero emissions in 2050. But the world has already breached the 1.5°C limit indicated in the Paris Agreement [7].

Climate science has delivered evidence about the anthropogenic sources of climate change and the solutions available to humanity. Nevertheless, inaccurate, unreliable information about the nature of climate change is being widely disseminated to the public and policymakers, obstructing and delaying climate action. A necessary condition of timely climate action is that national and international institutions act now on the crisis of information integrity regarding climate science. Policymakers should secure more comparative evidence, especially from countries in the Global South, about climate information integrity.

This *Summary for Policymakers* provides evidence about the crisis of information integrity and indicates actions that should be undertaken to repair and maintain information integrity in the climate domain. Like the climate crisis, the crisis of information integrity has been brought on by humans. It is up to us and our political leaders to solve both crises in the window of opportunity between 2025 and 2050.

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